Listing of Claims

1. (Currently Amended) A method of allowing a client to access a wireless system, the system comprising at least a first wireless access node, the method comprising:

the first wireless access node detecting [a] the client seeking access to the system, the first wireless access node able to wirelessly connect to a back bone network;

the first wireless access node obtaining client information, the client information comprising an IP address of the client's default gateway, wherein the IP address of the client's default gateway is assigned to the client by a DHCP server;

the first wireless access node providing the client a first communication path to and from a destination, the first communication path able to include wired and wireless communication links; and

aiding in [a] routing of information through the first communication path between the client and the destination based upon detection of the client.

2. (Currently amended) The method of allowing a client to access a wireless system of claim 1, wherein the wireless connection between the first wireless access node and the back bone network comprises at least one wireless hop between the first wireless access node and a third access node.

3. (Currently amended) The method of allowing a client to access a wireless system of claim 1, further comprising:

the client roaming from the first wireless access node to a second wireless access node;

the second wireless access node detecting the client seeking access to the system, the second wireless access node able to connect to the back bone network;

obtaining client information;

the second wireless access node providing the client a second communication path to and from the destination, the second communication path able to include wired and wireless communication links; and

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aiding in [a] routing of information through the second communication path between the client and the destination based upon detection of the client.

4. (Previously Presented) The method of allowing a client to access a wireless system of claim 3, wherein the wireless connection between the second access node and the back bone network comprises at least one wireless hop between the second access node and a fourth access node.

5. (Cancel) The method of allowing a client to access a wireless system of claim 1, wherein the first wireless access node is a first gateway that is linked to a computer network through a wired connection.

6. (Cancel) The method of allowing a client to access a wireless system of claim 3, wherein the second wireless access node is a second gateway that is linked to a computer network through a wired connection.

7. (Previously Presented) The method of allowing a client to access a wireless system of claim 3, wherein the first wireless access node and the second wireless access node belong to a common cluster.

8. (Previously Presented) The method of allowing a client to access a wireless system of claim 3, wherein the first wireless access node belong to a first cluster, and the second wireless access node belongs to a second cluster.

9. (Previously Presented) The method of allowing a client to access a wireless system of claim 8, wherein the first cluster is connected to a first subnet, and the second cluster is connected to a second subnet.

10. (Original) The method of allowing a client to access a wireless system of claim 3, wherein the second wireless access node allows the client to maintain a same default gateway IP address as client roams from the first wireless access node.

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11. (Original) The method of allowing a client to access a wireless system of claim 3, wherein the second wireless access node allows the client to maintain a same default gateway MAC address as client roams from the first wireless access node.

12. (Currently Amended) The method of allowing a client to access a wireless system of claim 1, wherein detecting the client comprises:

the first wireless access node detecting a MAC address of the client;

the first wireless access node determining an IP address of the client from the MAC address of the client.

13. (Currently Amended) The method of allowing a client to access a wireless system of claim 12, wherein detecting the client further comprises:

the first wireless access node receiving an association request from the client.

14. (Currently Amended) The method of allowing a client to access a wireless system of claim 12, wherein detecting the client further comprises:

the first wireless access node determining client information parameters.

15. (Currently Amended) The method of allowing a client to access a wireless system of claim 14, wherein determining client information parameters comprises at least one of the first wireless access node determining a MAC address of client's default gateway, the first wireless access node determining an IP address of client's default gateway, determining a length of a DHCP lease, determining a time the client was last on the network, the first wireless access node determining an IP address of the client.

16. (Original) The method of allowing a client to access a wireless system of claim 1, wherein a first gateway maintains information pertaining to the client.

17. (Original) The method of allowing a client to access a wireless system of claim 16, wherein the first gateway is within a same cluster as the first wireless access node.

18. (Cancel) The method of allowing a client to access a wireless system of claim 16, wherein the first gateway is within a same cluster as the first wireless access node.

19. (Original) The method of allowing a client to access a wireless system of claim 1, wherein at least a third gateway not within a same cluster as the first wireless access node maintains information pertaining to the client.

20. (Original) The method of allowing a client to access a wireless system of claim 1, wherein at least two gateways maintain client information parameters.

21. (Original) The method of allowing a client to access a wireless system of claim 3, wherein at least two gateways maintain client information parameters.

22. (Original) The method of allowing a client to access a wireless system of claim 1, wherein a network management system connected to the wireless system maintains information pertaining to the client.

23. (Original) The method of allowing a client to access a wireless system of claim 3, wherein a second gateway within a same cluster as the second wireless access node maintains information pertaining to the client.

24. (Currently amended) The method of allowing a client to access a wireless system of claim 1, wherein the first wireless access node references at least one of: a first gateway within a same cluster as the first wireless access node, and a third gateway, to obtain client information regarding the client.

25. (Currently amended) The method of allowing a client to access a wireless system of claim 1, wherein the first wireless access node obtains the client information from a gateway by sending an anti-ARP request.

26. (Original) The method of allowing a client to access a wireless system of claim 1, wherein if a first requested gateway does not have the client information, then the first requested gateway requests the client information from another gateway.

27. (Original) The method of allowing a client to access a wireless system of claim 26, wherein the requests of the first gateway can be transmitted over a back haul interface of the first gateway.

28. (Original) The method of allowing a client to access a wireless system of claim 26, wherein the requests of the first gateway can be unicast as IP datagrams.

29. (Original) The method of allowing a client to access a wireless system of claim 26, wherein the requests of the first gateway can be multicast to other gateways.

30. (Original) The method of allowing a client to access a wireless system of claim 26, wherein the requests of the first gateway can be broadcast to other gateways.

31. (Original) The method of allowing a client to access a wireless system of claim 25, wherein the anti-ARP request is continuously re-transmitted until a response is received.

32. (Currently amended) The method of allowing a client to access a wireless system of claim 25, wherein if none of the gateways have information regarding the client, then information regarding the client is obtained by [an] the first wireless access node querying a network interface card driver of the access node that is detecting the client.

33. (Currently amended) The method of allowing a client to access a wireless system of claim 25, wherein if none of the gateways have information regarding the client, then an IP address of the client is obtained by the first wireless access node by at least one of[;] : pinging the broadcast address, snooping IP datagrams originating from MAC address of client, the first wireless access node inspecting a DHCP acknowledgment packet.

34. (Currently amended) The method of allowing a client to access a wireless system of claim 33, wherein information of [the] a second gateway is updated with the obtained client information.

35. (Currently amended) The method of allowing a client to access a wireless system of claim 25, wherein if none of the gateways have information regarding the client, then a default gateway IP address of the client is obtained by interception and inspection by the first wireless access node of a DHCP acknowledgment packet sent to the client.

36. (Currently amended) The method of allowing a client to access a wireless system of claim 16, wherein the first gateway can provide a proxy ARP so that a device outside of the wireless system can be spoofed into sending frames addressed to the client IP address to the [first gateways] MAC address of the first gateway.

37. (Currently amended) The method of allowing a client to access a wireless system of claim 22, wherein [the] a second gateway [provides] gratuitously sends an ARP to an edge router upon the client switching from a first cluster to a second cluster so that an ARP cache within the edge router can be updated.

38. (Original) The method of allowing a client to access a wireless system of claim 8, wherein an IP-in-IP tunnel is created between a first gateway of the first cluster and a second gateway of the second cluster.

39. (Original) The method of allowing a client to access a wireless system of claim 38, wherein the first cluster is connected to a first subnet, and the second cluster is connected to a second subnet, and information destined for the client through the first gateway is rerouted to the second gateway through an IP-in-IP encapsulated tunnel.

40. (Original) The method of allowing a client to access a wireless system of claim 38, wherein the first gateway and the second gateway are maintained by a network management system, and the network management system controls creation, maintenance, and removal, of an IP-in-IP tunnel formed between the first gateway and the second gateway.

41. (Original) The method of allowing a client to access a wireless system of claim 38, wherein data traffic for the client is received by the first gateway, encapsulated within an IP datagram having a same destination IP address as the second gateway, and routed through the tunnel.

42. (Original) The method of allowing a client to access a wireless system of claim 41, wherein the second gateway decapsulates the IP datagram by stripping an IP header, and routes the data traffic based upon an IP destination address.

43. (Currently Amended) The method of allowing a client to access a wireless system of claim 1, wherein a first IP address that is consistent with a local subnet is dynamically obtained through DHCP assigned to the client by the DHCP server.

44. (Original) The method of allowing a client to access a wireless system of claim 1, wherein a first IP address is statically assigned.

45. (Original) The method of allowing a client to access a wireless system of claim 43, wherein the first IP address remains fixed as the client roams.

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46. (Original) The method of allowing a client to access a wireless system of claim 44, wherein the first IP address remains fixed as the client roams.

47. (Currently amended) The method of allowing a client to access a wireless system of claim 45, wherein a default gateway IP address that is consistent with a local subnet is dynamically ~~obtained through DHCP~~ assigned to the client by the DHCP server.

48. (Currently amended) The method of allowing a client to access a wireless system of claim 46, wherein a default gateway IP address is statically configured [that is consistent with a local subnet is dynamically obtained through DHCP].

49. (Currently amended) The method of allowing a client to access a wireless system of claim 47, wherein the default ~~gateway IP address~~ route on the client device remains fixed as the client roams.

50. (Currently amended) The method of allowing a client to access a wireless system of claim 48, wherein the default gateway ~~IP address~~ route on the client device remains fixed as the client roams.

51. (Currently amended) The method of allowing a client to access a wireless system of claim 49, wherein both the first IP address and the default gateway ~~IP address~~ route on the client device remain fixed as the client roams within a cluster, both the first IP address and the default gateway route on the client device remain fixed as the client roams between clusters having a common subnet, both the first IP address and the default gateway route on the client device remain fixed as the client roams between clusters having different subnets.

52. (Currently amended) The method of allowing a client to access a wireless system of claim 49, wherein the default gateway ~~address~~ route on the client device remain fixed as the client roams within a cluster, the default gateway route on the client device remain fixed as the client roams between clusters having a common subnet, and the

default gateway route on the client device remain fixed as the client roams between clusters having different subnets.

53. (Currently amended) The method of allowing a client to access a wireless system of claim 50, wherein both the first IP address and the default gateway IP address route on the client device remain fixed as the client roams within a cluster, between clusters having a common subnet, between clusters having different subnets.

54. (Currently amended) The method of allowing a client to access a wireless system of claim 50, wherein the default gateway address route on the client device remain fixed as the client roams within a cluster, between clusters having a common subnet, between clusters having different subnets.

55. (Currently amended) The method of allowing a client to access a wireless system of claim 1, wherein aiding in a routing of information through the communication path between the client includes updating a routing table for each of the access nodes and gateways that exist in the communication path between the first wireless access node and the destination.

56. (Original) The method of allowing a client to access a wireless system of claim 1, wherein routing tables of other network elements on the backbone network may be updated.

57. (Original) The method of allowing a client to access a wireless system of claim 16, wherein the client information [ages] expires out of the first gateway database unless the client information is periodically refreshed.

58. (Currently Amended) A wireless system, the system comprising at least a first wireless access node, the system further comprising:
    means for the first wireless access node detecting a client seeking access to the system, the first wireless access node able to wirelessly connect to a back bone network;

means for the first wireless access node obtaining client information, the client information comprising an IP address of the client's default gateway, wherein the IP address of the client's default gateway is assigned to the client by a DHCP server

means for the first wireless access node providing the client a first communication path to and from a destination, the first communication path able to include wired and wireless communication links; and

means for the first wireless access node aiding in [a] routing of information through the first communication path between the client and the destination based upon detection of the client.

59. (Currently amended) The wireless system of claim 58, wherein the wireless connection between the first wireless access node and the back bone network comprises at least one wireless hop between the first wireless access node and a third access node.

60. (Currently Amended) The wireless system of claim 58, further comprising:

means for allowing the client to roam from the first wireless access node to a second wireless access node;

means for the second wireless access node detecting the client seeking access to the system, the second wireless access node able to connect to the back bone network;

means the second wireless access node for obtaining client information;

means for the second wireless node providing the client a second communication path to and from the destination, the second communication path able to include wired and wireless communication links; and

means for the second wireless access node aiding in a routing of information through the second communication path between the client and the destination based upon detection of the client.

61. (Currently amended) The method of allowing a client to access a wireless system of claim 60, wherein the wireless connection between the second wireless access node

and the back bone network comprises at least one wireless hop between the second wireless access node and a fourth access node.

62. (Currently Amended) A first wireless access node, the first wireless access node comprising:

means for detecting a client seeking access to the system, the first wireless access node able to wirelessly connect to a back bone network;

means for obtaining client information, the client information comprising an IP address of the client's default gateway, wherein the IP address of the client's default gateway is assigned to the client by a DHCP server

the first wireless access node including means for providing the client a first communication path to and from a destination, the first communication path able to include wired and wireless communication links; and

means for aiding in a routing of information through the first communication path between the client and the destination based upon detection of the client.

63. (New) A method of allowing a client to access a wireless system, the system comprising at least a first wireless access node, the method comprising:

the first wireless access node detecting the client seeking access to the system, the first wireless access node able to wirelessly connect to a back bone network;

the first wireless access node obtaining client information, the client information comprising an IP address of the client's default gateway and the client's IP address, wherein the IP address of the client's default gateway is obtained by the first wireless access node by intercepting and inspecting a DHCP acknowledgement packet, and wherein the client's IP address is also obtained by the first wireless access node by interception and inspection of the DHCP acknowledgment packet;

the first wireless access node providing the client a first communication path to and from a destination, the first communication path able to include wired and wireless communication links; and

aiding in a routing of information through the first communication path between the client and the destination based upon detection of the client.

64. (New) A method of allowing a client to access a wireless system, the system
comprising at least a first wireless access node, the method comprising:

the first wireless access node detecting <u>the</u> client seeking access to the system, the
first wireless access node being wire connected to a back bone network;

the first wireless access node obtaining client information, the client information
comprising an IP address of the client's default gateway, wherein the IP address of the
client's default gateway is assigned to the client by a DHCP server;

the first wireless access node providing the client a first communication path to
and from a destination, the first communication path able to include wired and wireless
communication links; and

aiding in routing of information through the first communication path between the
client and the destination based upon detection of the client.

65. (New) The method of allowing a client to access a wireless system of claim 64,
further comprising:

the client roaming from the first wireless access node to a second wireless
access node;

the second wireless access node detecting the client seeking access to the system,
the second wireless access node wire connected to the back bone network;

obtaining client information;

the second wireless access node providing the client a second communication
path to and from the destination, the second communication path able to include wired
and wireless communication links; and

aiding in routing of information through the second communication path between
the client and the destination based upon detection of the client.

66. (New) The method of allowing a client to access a wireless system of claim 49,
wherein an ARP cache entry on the client does not change as the client roams.

67. (New) The method of allowing a client to access a wireless system of claim 66, wherein both the first IP address and the default gateway route on the client device remain fixed as the client roams within a cluster, between clusters having a common subnet, between clusters having different subnets.